

NPIC/TDS/D-1182-67
27 December 1967

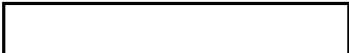
MEMORANDUM FOR: Division and Staff Chiefs, NPIC

SUBJECT: R&D Notes

1. The attached paper was compiled by the Development Staff as an experiment in communication. The idea is that, since the function of TDS is to provide support to operational personnel, there should be a convenient way of disseminating R&D items of interest to potential users. Also, and perhaps more important, there should be a channel for technical questions and problems to reach R&D personnel.

2. I have come to believe that the best means of developing this dialogue is a periodic list of notes taken from the verbal and written reports of R&D project monitors, similar in purpose to the library's acquisition list.

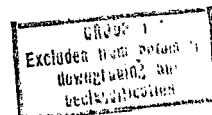
3. I would appreciate your cooperation in distributing this sample set of notes among your people and encouraging them to respond. If the experiment meets with general approval, subsequent notes will be mimeographed and distributed in larger quantity.


Colonel, USAF

Assistant for Technical Development, NPIC

Attachment: (1)
R&D Notes

Declass Review by NGA.



AttachmentR&D NOTES

The following items have been taken from R&D progress reports and are being distributed because of their general interest. It is hoped that this distribution will result in constructive feedback from operational components. Such comments, as well as any similar items noted by Center personnel might be forwarded to TDS for inclusion in a subsequent set of Notes.

* * *

Milestone in Dry-Silver Processing

X1 [] has reached a new milestone in its NPIC-sponsored development of a high-resolution, dry photographic duplicating system. After some delay because of internal labor problems, the Company has material ready for testing its printer/processor fly-away kit. This special dry-silver material can be handled safely in the normal subdued lighting of a photo interpretation area. The kit will enable a PI in the field to make either paper or transparency copies on the spot from original negatives in a matter of seconds. [] NPIC Technical Representative in this project, will evaluate the material and kit at the [] plant during January. If acceptable, the kit will be brought to the Center for extensive testing by the TDS Equipment Performance Staff before being sent overseas for field evaluation. As an unexpected advantage X1 resulting from the [] delay in preparing the fly-away kit material, X1 there has been significant interim progress on the heat processed [] diazo material which will provide a positive-to-positive capability. 25X It will be possible to carry out simultaneous limited field tests with the dry diazo process. 25X

* * *

Zoom 240 Focusing Problem

X1 Initial operational evaluation of the Zoom 240, an improved version of the Zoom 70 which [] has developed with its own funds, has disclosed an out-of-focus area impinging on the right and left edges of the field of view. The same problem exists with the Zoom 70, but in that case the affected area is smaller and apparently negligible. However, the size of the out-of-focus area is directly related to the instrument's resolving power, which has been approximately doubled on the Zoom 240. Fortunately, the fault can be overcome for both instruments by using the Rhomboid attachment developed by NPIC. [] project monitor on the Zoom 240 evaluation, has brought this problem to the attention of the EXRAND Subcommittee of COMIREX, and is preparing a detailed analysis for distribution in the Center. This analysis will include a technical explanation of the problem and a detailed estimate of its potential seriousness. 25X

* * *

SECRET

Illustromat Demonstration

X1 As part of their continuing study of Reporting Techniques and Equip-
ment, [] have recently attended demonstrations
of the Illustromat at Government and private installations in Seattle,
X1 Aberdeen Proving Grounds, and New York. This device, produced by
[] is essentially a sophisticated and auto-
mated pantograph, which can convert drawings or photographs into complex
perspectives. With virtually no training or experience, the operator
can produce perspective outlines equal to those of an experienced artist.
Detailed information on the Illustromat can be obtained from []

X1 []
* * *

Binocular Tube Magnifier

X1 The Binocular Tube Magnifier development, which had seemingly reached
an impasse because of high estimated production costs, is being revived.
An experimental model of this device was produced in FY-1966, but there
was no quantity production because of the cost (see NPIC Equipment Summary
for 1967). Now, however, a design review is underway and []
the project monitor, expects to receive a proposal soon for a much cheaper
version of the instrument. Basically, the new Magnifier will be the
same, although the use of standard lenses will give magnifications of
12.5X and 25X instead of 10X and 20X. Initial indications are that the
cost per item will be [] and joint procurement with other Govern-
ment agencies may further lower the price.

X1 * * *

Collimated Light Experiment

In conjunction with the Human Factors Program, []
has developed, in its own laboratories, a special lighting system to
facilitate the work of photo interpreters. The system utilizes a collima-
ting grid under each light source to prevent glare, and makes possible
the selective illumination of a working area. Although the initial
impression of a person entering such an area is that there is insufficient
light, both experience and photometer measurements clearly demonstrate
that the light is ideal for detailed work. In fact, the lighting level
was selected by vision experts with the photo interpreter in mind, and
the effect is to substantially reduce eye strain.

X1 A PAG working space will receive the new lighting soon for opera-
tional evaluation. In the meantime, for demonstration and preliminary
evaluation, [] office has been equipped with the system.
X1 Questions regarding this project should be addressed to the technical
monitor, []

* * *

SECRET